Application No. 09/651,754 Docket No. 20-0139

REMARKS

The present application includes claims 1-22. Claims 1-22 were rejected. By this Amendment, claims 1, 14, and 19 have been amended.

Claims 1-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Phillips, U.S. Patent No. 6,072,994. Phillips teaches a digitally programmable multifunction radio system architecture. In Phillips, as shown in Figure 3, a common programmable receive module 106 and a common programmable transmit module 204 are provided. The programmable modules may be programmed over a wide range of criterion, but each of the programmable modules is mono-directional as indicated by the arrows in Figure 3. That is, the transmit module only transmits and the receive module only receives. Consequently, Phillips does not teach the use of a plurality of bi-directional transceivers.

More specifically, as illustrated in Figure 1 and described beginning at col. 15, line 48, the channelized receiver system 100 includes an antenna 102, an antenna interface unit (AIU) module 104, and a common receive module 106. Signals pass from the antenna 103 through the AIU 104 to the common receive module 106. The common receive module 106 then outputs the signals to the desired output, for example, user interface 116 or speaker 112.

Figure 2 illustrates the channelized transmit system which is similar to the receiver system of Figure 1, except that the transmit module 204 has been inserted in place of the receiver module 106.

The innovation of Phillips is that the functionality of the channel is partitioned between the AIU and the common receive module, as discussed beginning at col. 13, line 1. Functionality-specific hardware is allocated to the AIU. (Col. 13, Lines 22-24). Conversely, the common receive module may be programmed to perform any of a variety of CNI functions. (Col. 13, Lines 11-13). That is, hardware that is common among many different types of CNI radio function is placed inside common programmable modules such as the common receive module. (Col. 14, Lines 56-60). Conversely, hardware that is specific to a single CNI function is housed separately, outside the common programmable modules, in the AIUs. (Col. 14, Lines 60-63). Thus, the common receive module is "common" because the same module can be programmed to process one of many different types of CNI radio functions. (Col. 18, Lines 50-53). Although a common receive module may be reprogrammed to receive different inputs, the receive module remains a mom-directional receive module. That is, Phillips does not teach that a receive module may be reprogrammed into a transmit module, for example.

As discussed beginning at col. 17, line 21, Figure 3 illustrates a combined transmitter/receiver system 300 suitable for CNI applications. The system 300 includes AIU 308, common transmit module 204 and common receive module 106. The path of data for each module is indicated in Figure 3. That is, for the common receive module 106, RF data is indicated as traveling from the AIU 308 into the common receive module 106. For the common transmit module 204, RF data is indicated as traveling to the AIU 308 from the common transmit module 204. As mentioned above, although the receive module 106 may be reprogrammed to receive different inputs, Phillips does not teach that

the receive module may also serve as a transmit module. That is, although Phillips teaches that the receive and transmit modules may be reprogrammed, Phillips does not teach that a receive module may be used or reprogrammed to transmit or that a transmit module may be sued or programmed to received.

Conversely, as illustrated in Figure 1 of the present application and described beginning at page 9, line 13, the multifunction slice 100 includes a number of transceivers 106-122. The transceivers provide both transmit and receive functionality and may be programmed to do so over a wide frequency range. Additionally, as illustrated in Figure 2, the output from antenna preconditioners 218-224 may be routed to one of several slices 234, each slice 234 including a plurality of transceivers 106-112. Additionally, as shown in Figure 4, the output from a plurality of the antenna preconditioners 410-416 may be switched directly between a number of transceivers in the system 400. None of these innovations is taught by Phillips.

Independent claims 1, 14, and 19 have been amended to clarify that the transceiver-processor building block includes a plurality of bi-directional transceivers. As discussed above, Phillips does not teach any bi-directional transceivers at all. Instead, Phillips uses a mono-directional receive module and a mono-directional transmit module. Thus, the Applicant respectfully submits that claim 1 is free of Phillips and consequently allowable. Additionally, claims 2-13, 15-18, and 20-22 depend from claims 1, 14, and 19 respectively and are also respectfully submitted to be allowable.

Accordingly, the application as amended is now believed to be in condition for allowance and an action to this effect is respectfully requested. If the Applicant may be of any assistance, the Examiner is invited to contact the Applicant by phone at the number below. Please charge any additional fees or credit overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

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ATTACHMENT FOR CLAIM AMENDMENTS

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Serial No.: 09/651,754; Filed: August 30, 2000

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A transceiver-processor building block for an electronic radio system multifunction slice, the building block comprising:

a plurality of bi-directional transceivers;

a processor coupled to the transceivers;

a local RF control bus inaccessible directly from outside the multifunction slice and coupled between the processor and the transceivers;

a network bus coupled to the processor; and

a network bus connector coupled to the network bus to provide direct accessibility to the network bus from outside the multifunction slice.

14. (Amended) An electronic radio system multifunction slice for supporting a predetermined number of communication threads, the multifunction slice comprising:

an RF aperture interface;

a plurality of bi-directional transceivers coupled to the RF aperture interface;

a processor coupled to the transceivers;

a local RF control bus inaccessible directly from outside the multifunction slice and coupled between the processor, the transceivers, and the RF aperture interface;

a network bus coupled to the processor;

a network bus connector coupled to the network bus to provide direct accessibility to the network bus from outside the multifunction slice; and

a backplane interface coupled to the processor, the backplane interface providing a backplane output and a backplane input.

19. (Amended) A method for operating a transceiver-processor building block in an electronic radio system multifunction slice, the method comprising:

providing a plurality of bi-directional transceivers coupled to a processor;

communicating unencrypted data to the processor over a network bus coupled to the processor, the network bus coupled to a network bus connector providing direct accessibility to the network bus from outside the multifunction slice;

processing the unencrypted data to form control data; and

communicating the control data to the transceivers over a local RF control bus between the processor and the transceivers, the local RF control bus inaccessible directly from outside the multifunction slice.